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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/605,680

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Chih-Yuan Chen

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NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION

P.O. BOX 506

MERRIFIELD, VA 22116

EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,680	Applicant(s) CHEN, CHIH-YUAN	
	Examiner Christopher R. Lamb	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/17/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-4, 7, 8, 10, 11, 13-15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenjo (US 5,029,155).

Regarding claim 1:

Kenjo discloses (in the third embodiment: column 10, lines 15-45) an optical disc recording apparatus comprising:

an Endec controller, connected to a write strategy generator, for generating a predefined NRZI pattern and an APC mode signal (it writes a data signal, as per the second embodiment: column 9, lines 30-35, thus it has an encoder/decoder controller and write strategy generator. That the data signal is a predefined NRZI pattern is inherent; it is for use on an optical disc and optical discs are encoded with NRZI patterns);

a laser diode driven according to the write strategy generator to generate a multi-pulse light pulse having a fixed-duty ratio with two power levels during APC mode (column 10, lines 15-45);

a photodiode for generating output voltage according to a sensed power of the light pulse (column 10, lines 15-35); and

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a signal processor for averaging the generated output voltage (column 10, lines 15-35);

wherein the power of the laser diode is controlled according to average generated output voltage occurring during the APC mode (column 10, lines 15-35).

Regarding claim 2:

In Kenjo the signal processor for averaging the generated output voltage is a low pass filter (it is the sample & hold circuit: column 10, lines 15-35; earlier Kenjo discloses the sample & hold circuit may be a low-pass filter: column 6, lines 35-40).

Regarding claim 3:

The apparatus of Kenjo further comprises a sample and hold signal generator connected to the Endec controller for generating a sample and hold signal when the average generated output voltage has substantially stabilized (column 10, lines 15-35).

Regarding claim 4:

The apparatus of Kenjo further comprises at least one sample and hold circuit connected to the low-pass filter and to the sample and hold signal generator for sampling and holding the average generated output voltage according to the sample and hold signal (this is inherent: Kenjo discloses only vaguely describes the sample and hold mechanics, but does disclose the S&H output of Fig. 8; the S&H output is clearly held for a long period of time, so the S&H circuit must have a sample and hold circuit more sophisticated than a single low-pass filter).

Regarding claim 7:

In Kenjo the fixed-duty ratio is less than one (column 10, lines 15-45).

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Regarding claim 8:

In Kenjo the Endec controller initiates the APC mode exclusively with predefined APC areas of the optical disc (it occurs in the recording mark portion: column 10, lines 15-45).

Regarding claims 10, 11, 13-15, and 17:

These are method claims containing steps performed by the apparatus of claims 1, 7, and 8, and are met when the apparatus operates.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjo in view of Hsu et al (US 2005/0025018).

Regarding claim 9:

Kenjo discloses an optical disc recording apparatus as discussed above.

Kenjo does not disclose wherein the laser diode utilizes a Blu-ray, rewriteable standard.

Hsu discloses a Blu-ray, rewriteable standard (paragraph 10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kenjo wherein the laser diode utilizes a Blu-ray, rewriteable standard, as taught by Hsu.

The motivation would have been to make the apparatus compatible with the blu-ray standard, expanding functionality.

Regarding claims 16 and 18-20:

All elements of these claims are present in Kenjo in view of Hsu; see earlier rejections.

5. Claims 5-6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjo in view of Suzuki (US 6,744,031).

Regarding claim 12:

Kenjo discloses a method as discussed above.

Kenjo discloses wherein the substantially averaged photodiode output voltage is compared to a target power for controlling the power of the laser diode (done in error correcting circuit 44).

Kenjo does not disclose wherein the substantially averaged photodiode output voltage multiplied by the inverse of the fixed duty ratio is compared to a target power for controlling the power of the laser diode.

Suzuki discloses that when averaging a light pulse with a duty ratio the average power is equal to the target power multiplied by the duty ratio (column 4, lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kenjo wherein the substantially averaged photodiode output voltage multiplied by the inverse of the fixed duty ratio is compared to a target power for controlling the power of the laser diode (this is the inverse of the equation taught by Suzuki).

The motivation would have been to have the correct power (Kenjo doesn't disclose many details of the averaging method, but it would be obvious given Suzuki that some multiplication is necessary to get the correct result).

Regarding claims 5-6:

They are met by the combination of Kenjo in view of Suzuki discussed above.

6. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjo in view of Suzuki and further in view of Hsu.

The combination of Kenjo and Suzuki is discussed with regards to claim 12; the combination of Kenjo and Hsu is discussed with regards to claim 9. It would have been obvious to one of ordinary skill in the art to further combine these two combinations; the motivation would have been to gain the benefits discussed with regards to both.

Given this combination, all elements of claim 21 have been discussed with regards to earlier rejections.

7. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjo in view of Ichimura (US 6,222,814; disclosed in IDS), or Kenjo in view of Hsu and further in view of Suzuki and further in view of Ichimura.

These claims were rejected under 35 U.S.C. 102(b) in view of Kenjo as discussed above, or under 35 U.S.C. 103(a) in view of Kenjo, Suzuki, and/or Hsu as discussed above. However, if the Applicant can persuade the Examiner that the Endec controller of Kenjo does not inherently generate NRZI patterns, they can be rejected as follows:

Kenjo (and Suzuki and/or Hsu) discloses an optical disc recording apparatus and/or method as discussed above.

Kenjo does not disclose wherein the Endec controller generates a predefined NRZI pattern.

Ichimura discloses an encoder for generating NRZI patterns (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kenjo wherein the Endec controller generates a predefined NRZI pattern.

The motivation would be to make the apparatus of Kenjo usable with the DVD-type standards taught by Ichimura, improving functionality.

8. Claim 1-9 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenjo in view of Ichimura (US 6,222,814; disclosed in IDS), or Kenjo in view of Hsu and further in view of Suzuki and further in view of Ichimura.

These claims were rejected under 35 U.S.C. 102(b) in view of Kenjo as discussed above. However, if the Applicant can persuade the Examiner that the Endec controller of Kenjo does not inherently generate NRZI patterns, they can be rejected as follows:

Kenjo discloses an optical disc recording apparatus and/or method as discussed above.

Kenjo does not disclose wherein the Endec controller generates a predefined NRZI pattern.

Ichimura discloses an encoder for generating NRZI patterns (abstract).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Kenjo wherein the Endec controller generates a predefined NRZI pattern.

The motivation would be to make the apparatus of Kenjo usable with the DVD-type standards taught by Ichimura, improving functionality.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamamoto (US 6,618,334), Matsui (US 6,961,294), and Takeuchi et al. (US 6,728,183) all disclose averaging pulses during power control.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 7/6/06


THANG V. TRAN
PRIMARY EXAMINER